

Claims

1. A bandwidth expanded Digital Subscriber Line Access Multiplexer (DSLAM) for multicasting video service comprises a main control board, subscriber interface boards and a data bus which is connected between the main control board and each of the subscriber interface boards, wherein the DSLAM further comprises a video bus which is connected between the main control board and each of the subscriber interface boards for transmitting a video service stream.

2. The bandwidth expanded DSLAM according to Claim 1, wherein the DSLAM further comprises a multicasting distributor module; the main control board comprises a data processing module and a control module connected with the data processing module; the data processing module outputs the video service stream to an input of the multicasting distributor module, and an output of the multicasting distributor module is connected to the video bus.

3. The bandwidth expanded DSLAM according to Claims 1 or 2, wherein the video bus is a point-to-point star bus where the output of the multicasting distributor module is respectively connected to a data processing module in each subscriber interface board; the multicasting distributor module is used for duplicating the inputted video service stream and outputting to each subscriber interface board, respectively.

4. The bandwidth expanded DSLAM according to Claims 1 or 2, wherein the video bus is a shared bus where the output of the multicasting distributor module is connected to the data processing module in each subscriber interface board in parallel; the multicasting distributor module is used for directly driving the inputted video service stream to each subscriber interface board.

5. The bandwidth expanded DSLAM according to Claims 1 or 2, wherein the video bus comprises one set of bus or multiple sets of buses carrying different video channels of the video service stream.

6. The bandwidth expanded DSLAM according to Claims 1 or 2, wherein the video bus is a Gigabit Ethernet (GE) bus or a Cell bus.

7. The bandwidth expanded DSLAM according to Claims 1 or 2, wherein the video bus is a unidirectional bus transmitting the video service stream from the main control board to the subscriber interface board.

8. A transmission method for bandwidth expanded DSLAM comprising, connecting a main control board and each of subscriber interface boards in the DSLAM with a video bus, and

detecting whether a service from a network interface is a video service stream by the main control board; if it is, transmitting to each subscriber interface board through the video bus in the DSLAM, otherwise transmitting it through a data bus.

9. The transmission method according to Claim 8, wherein the step of transmitting to each subscriber interface board through the video bus in the DSLAM comprises,

transmitting the video service stream to an added multicasting distributor module by a data processing module in the main control board, and

the multicasting distributor module transparently forwarding to the video bus which is shared , and broadcasting to a data processing module of each subscriber interface board through the video bus.

10. The transmission method according to Claim 8, wherein the step of transmitting to each subscriber interface board through the video bus in the DSLAM comprises,

transmitting the video service stream to the multicasting distributor module by the data processing module in the main control board;

duplicating the video service stream same copies with the number of connected subscriber interface boards in broadcast mode, or duplicating it according to multicasting allocation in multicast mode by the multicasting distributor module, and

outputting the copied video service stream to the data processing module in each subscriber interface board through the video bus which is a point-to-point star connection.

11. The transmission method according to Claims 8, 9, or 10, further comprising, duplicating the received video service stream from the video bus by the

data processing module in the subscriber interface board, and outputting to a multicasting subscriber interface.

12. The transmission method according to Claims 8, 9, or 10, further comprising, detecting whether the received service stream from the video bus is a video service stream by the data processing module in the subscriber interface board; if it is, duplicating the received service stream and outputting to the multicasting subscriber interface, otherwise discarding it.

13. The transmission method according to Claims 8, 9, or 10, further comprising, transmitting all data from the multicast subscriber interface to the main control board through the data bus by the subscriber interface board.